SEP 07 2004
PATENT & TRADEMARK OFFICE

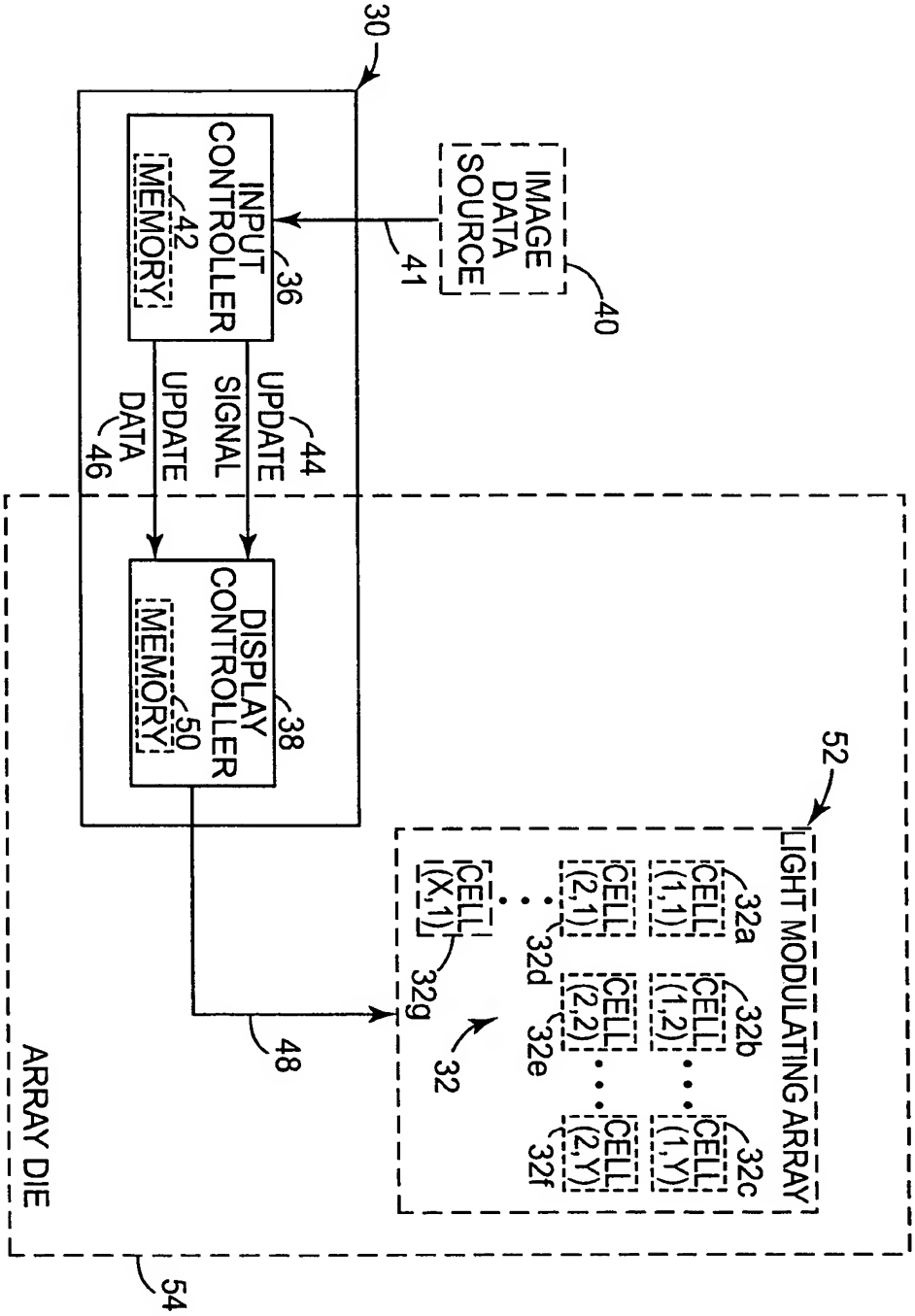


Fig. 1A

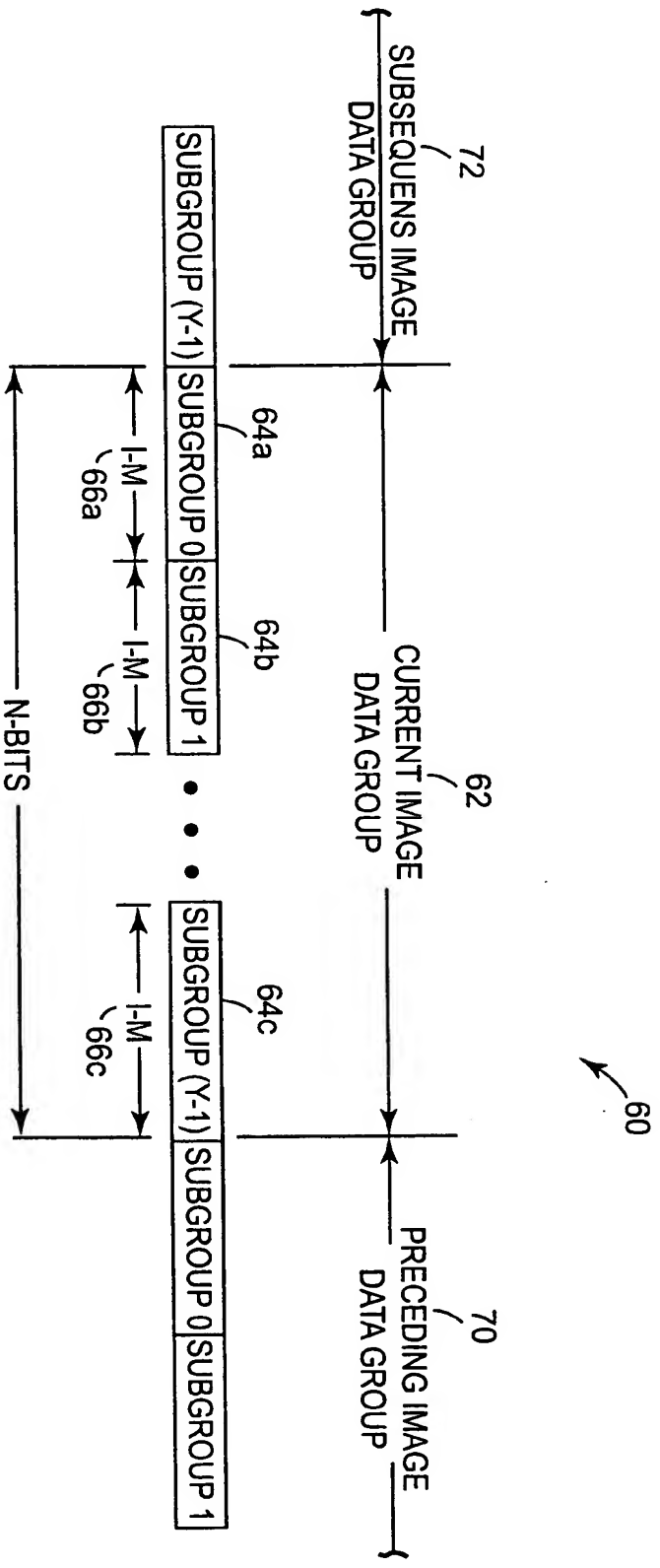

SUBSEQUENS IMAGE DATA GROUP
72
CURRENT IMAGE DATA GROUP
62
PRECEDING IMAGE DATA GROUP
70
60
SUBGROUP (Y-1)
SUBGROUP 0
SUBGROUP 1
64a
64b
64c
I-M
66a
I-M
66b
I-M
66c
N-BITS
68

Fig. 1B

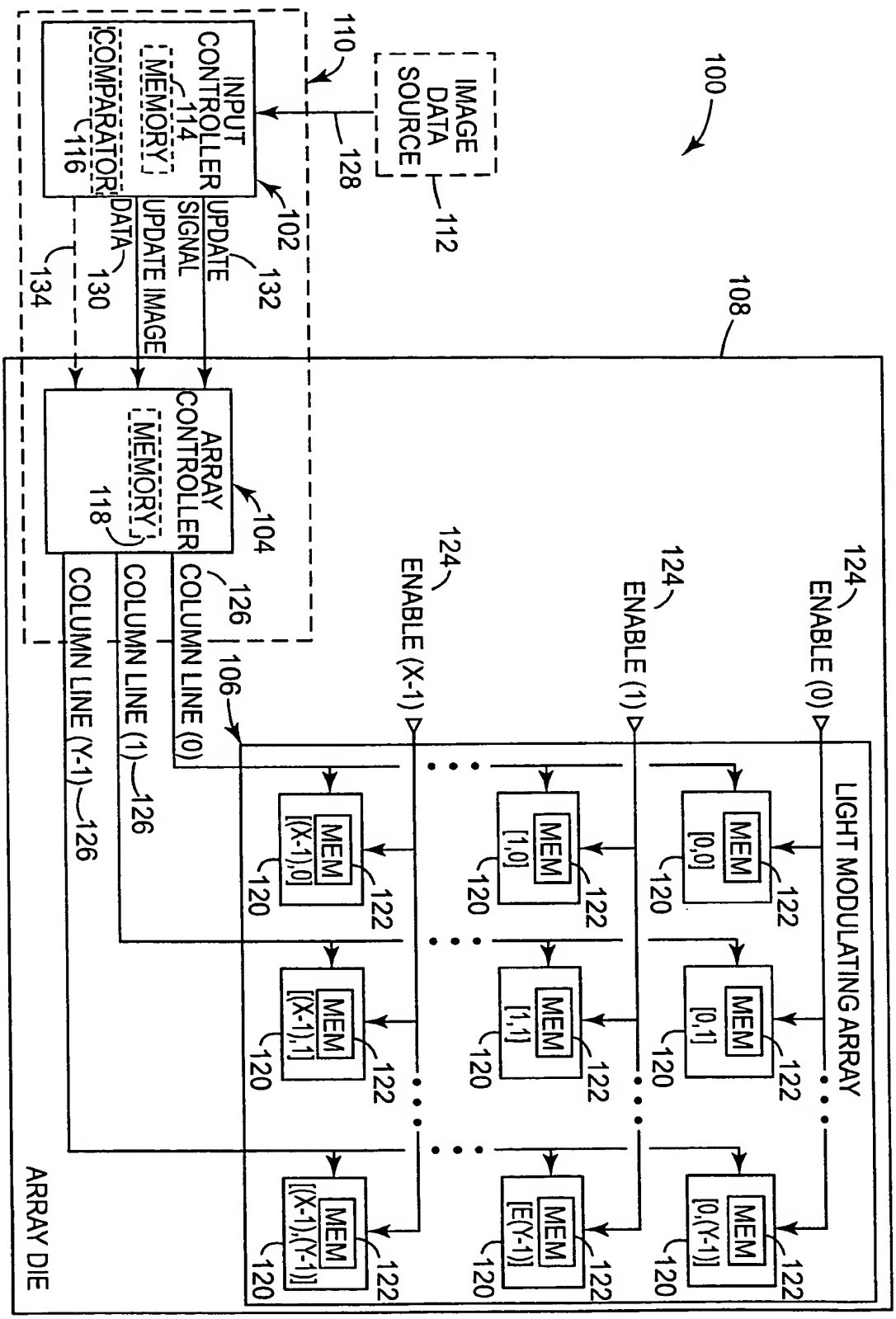
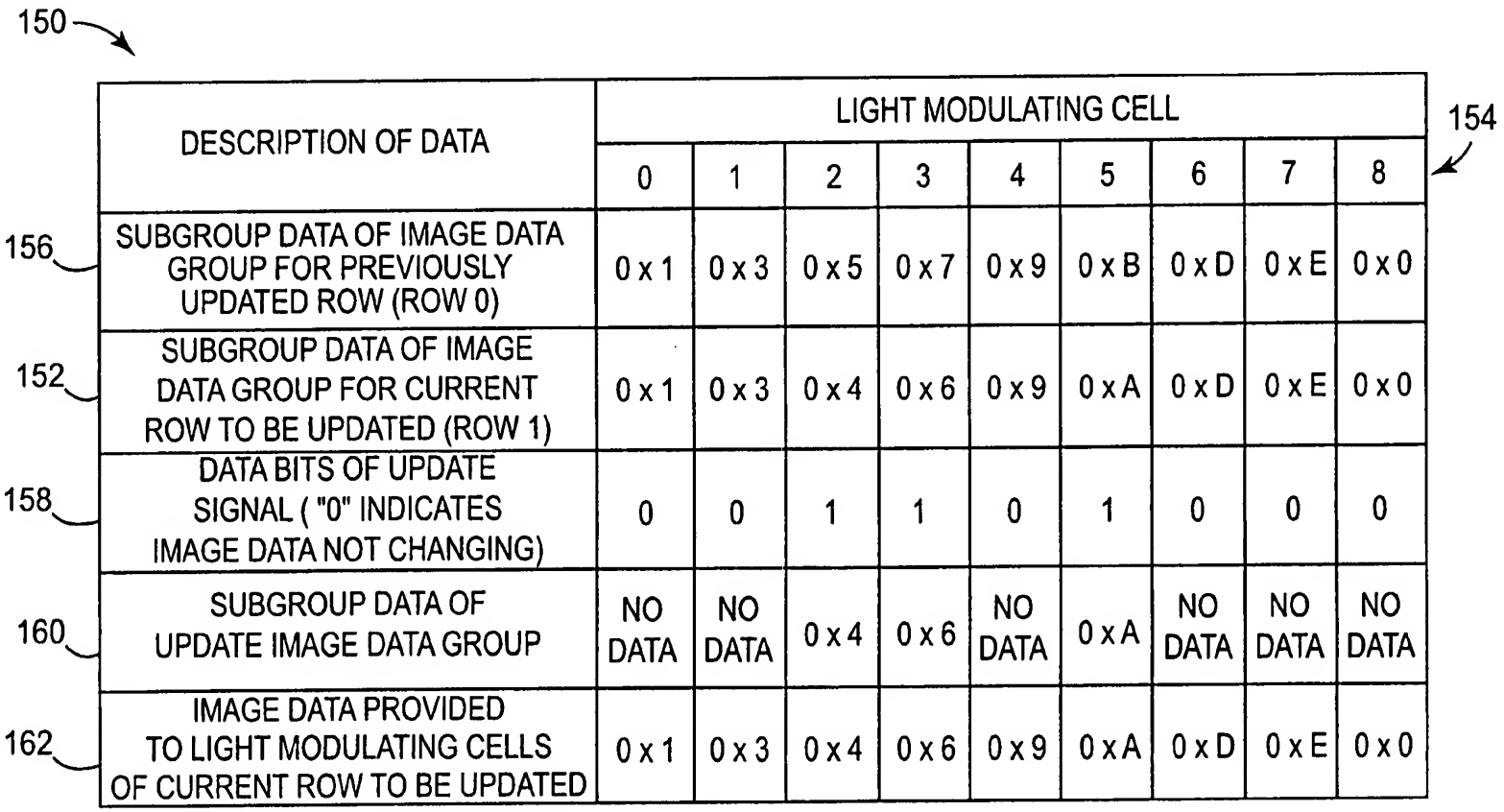

100
108
110
IMAGE DATA SOURCE
112
128
INPUT CONTROLLER
114
MEMORY
COMPARATOR
116
UPDATE SIGNAL
102
132
DATA
130
134
UPDATE IMAGE
ARRAY CONTROLLER
MEMORY
118
104
COLUMN LINE (0)
COLUMN LINE (1)
COLUMN LINE (Y-1)
126
106
ENABLE (0)
ENABLE (1)
ENABLE (X-1)
124
LIGHT MODULATING ARRAY
MEM [0,0]
MEM [0,1]
MEM [0,(Y-1)]
MEM [1,0]
MEM [1,1]
MEM [1,(Y-1)]
MEM [(X-1),0]
MEM [(X-1),1]
MEM [(X-1),(Y-1)]
MEM [E(Y-1)]
120
122
ARRAY DIE

Fig. 2



DESCRIPTION OF DATA	LIGHT MODULATING CELL								
	0	1	2	3	4	5	6	7	8
SUBGROUP DATA OF IMAGE DATA GROUP FOR PREVIOUSLY UPDATED ROW (ROW 0)	0 x 1	0 x 3	0 x 5	0 x 7	0 x 9	0 x B	0 x D	0 x E	0 x 0
SUBGROUP DATA OF IMAGE DATA GROUP FOR CURRENT ROW TO BE UPDATED (ROW 1)	0 x 1	0 x 3	0 x 4	0 x 6	0 x 9	0 x A	0 x D	0 x E	0 x 0
DATA BITS OF UPDATE SIGNAL ("0" INDICATES IMAGE DATA NOT CHANGING)	0	0	1	1	0	1	0	0	0
SUBGROUP DATA OF UPDATE IMAGE DATA GROUP	NO DATA	NO DATA	0 x 4	0 x 6	NO DATA	0 x A	NO DATA	NO DATA	NO DATA
IMAGE DATA PROVIDED TO LIGHT MODULATING CELLS OF CURRENT ROW TO BE UPDATED	0 x 1	0 x 3	0 x 4	0 x 6	0 x 9	0 x A	0 x D	0 x E	0 x 0

Fig. 3

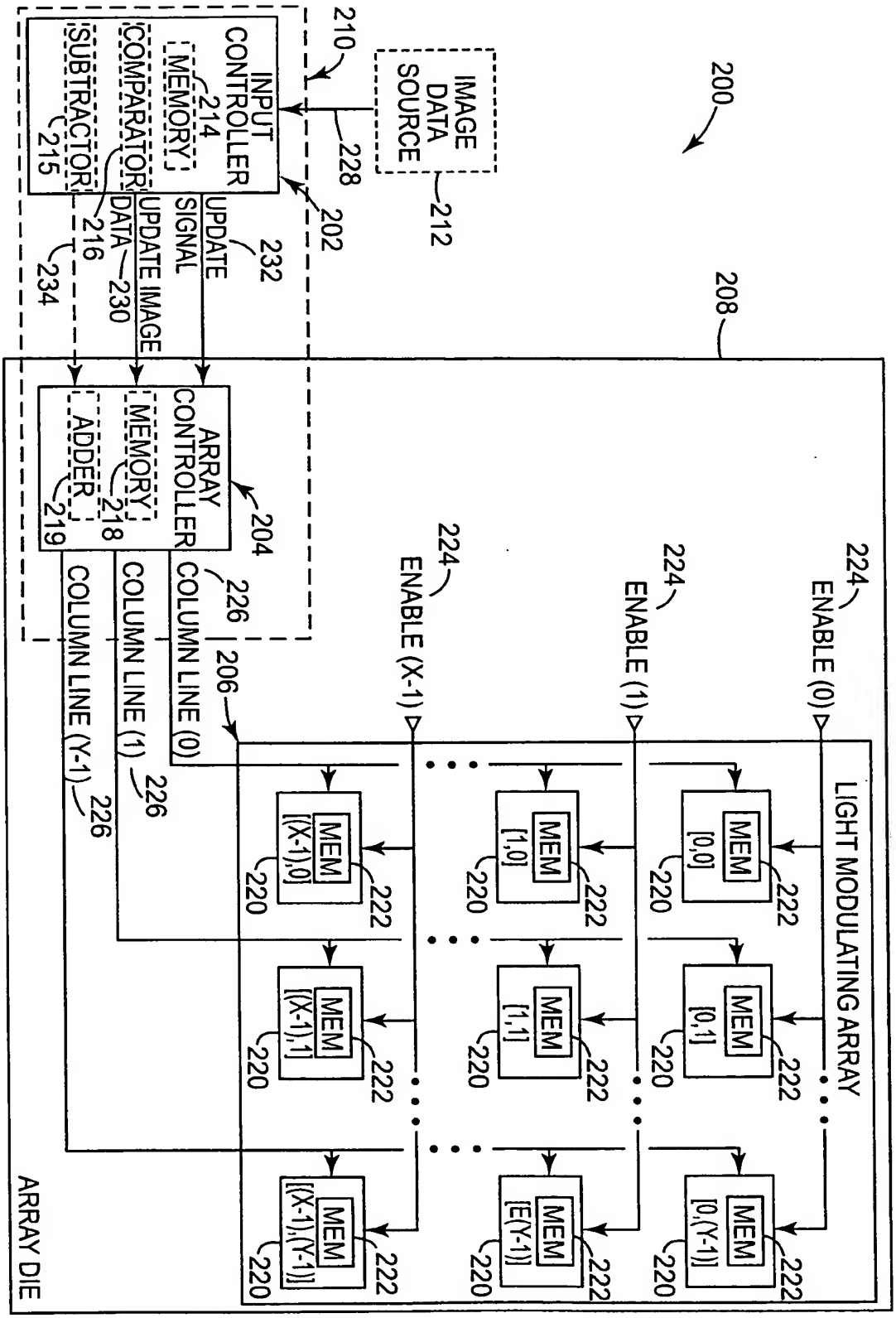

200
208
IMAGE DATA SOURCE
212
210
228
202
INPUT CONTROLLER
214
MEMORY
COMPARATOR
SUBTRACTOR
215
216
234
UPDATE SIGNAL
232
UPDATE IMAGE DATA
230
ARRAY CONTROLLER
204
MEMORY
218
ADDER
219
COLUMN LINE (0)
COLUMN LINE (1)
COLUMN LINE (Y-1)
226
206
ENABLE (0)
ENABLE (1)
ENABLE (X-1)
224
LIGHT MODULATING ARRAY
MEM [0,0]
MEM [0,1]
MEM [0,(Y-1)]
MEM [1,0]
MEM [1,1]
MEM [1,(Y-1)]
MEM [(X-1),0]
MEM [(X-1),1]
MEM [(X-1),(Y-1)]
MEM [E(Y-1)]
220
222
ARRAY DIE

Fig. 4

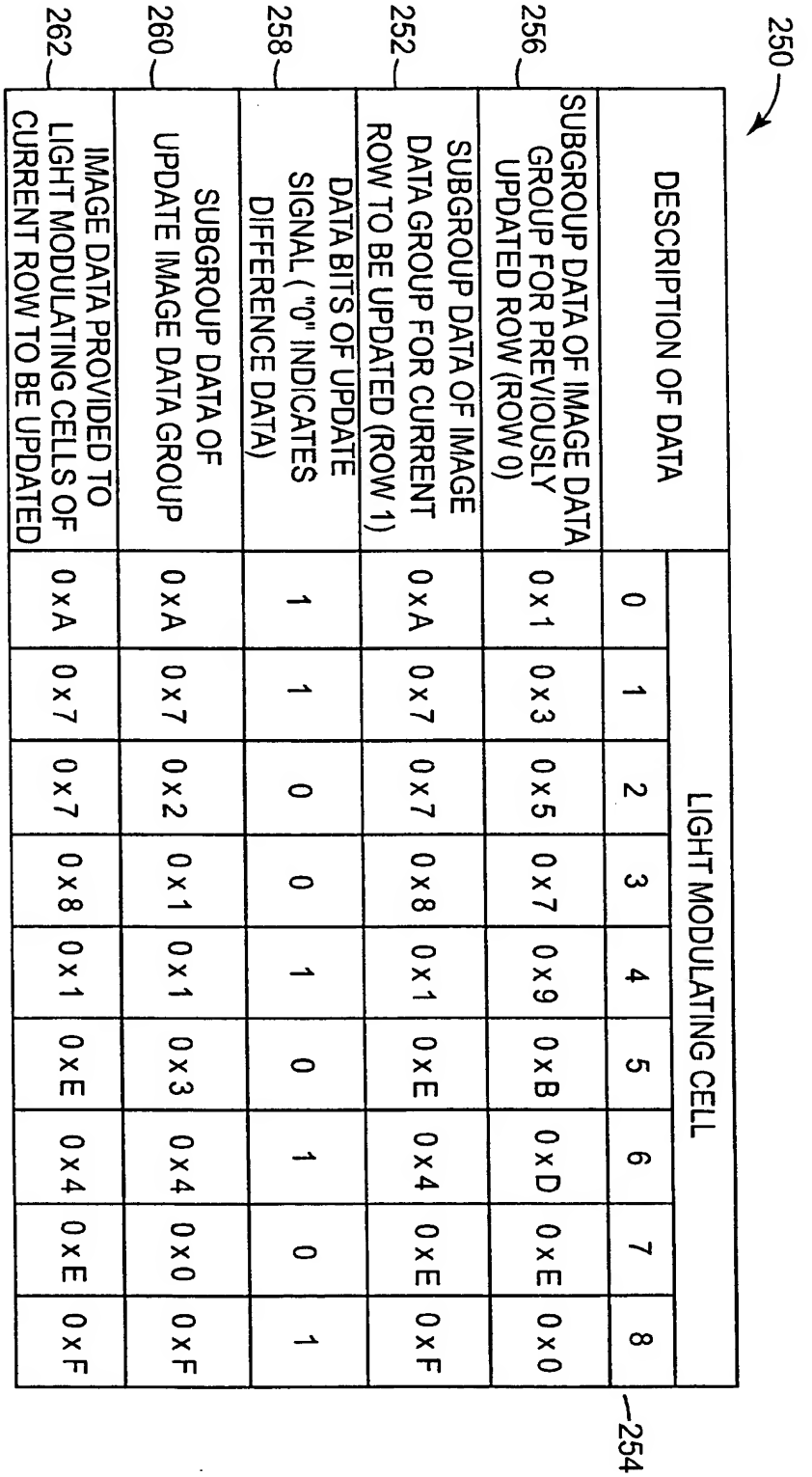

250
DESCRIPTION OF DATA
LIGHT MODULATING CELL
0
1
2
3
4
5
6
7
8
254
256
SUBGROUP DATA OF IMAGE DATA GROUP FOR PREVIOUSLY UPDATED ROW (ROW 0)
0x1
0x3
0x5
0x7
0x9
0xB
0xD
0xE
0x0
252
SUBGROUP DATA OF IMAGE DATA GROUP FOR CURRENT ROW TO BE UPDATED (ROW 1)
0xA
0x7
0x7
0x8
0x1
0xE
0x4
0xE
0xF
258
DATA BITS OF UPDATE SIGNAL ("0" INDICATES DIFFERENCE DATA)
1
1
0
0
1
0
1
0
1
260
SUBGROUP DATA OF UPDATE IMAGE DATA GROUP
0xA
0x7
0x2
0x1
0x1
0x3
0x4
0x0
0xF
262
IMAGE DATA PROVIDED TO LIGHT MODULATING CELLS OF CURRENT ROW TO BE UPDATED
0xA
0x7
0x7
0x8
0x1
0xE
0x4
0xE
0xF

Fig. 5

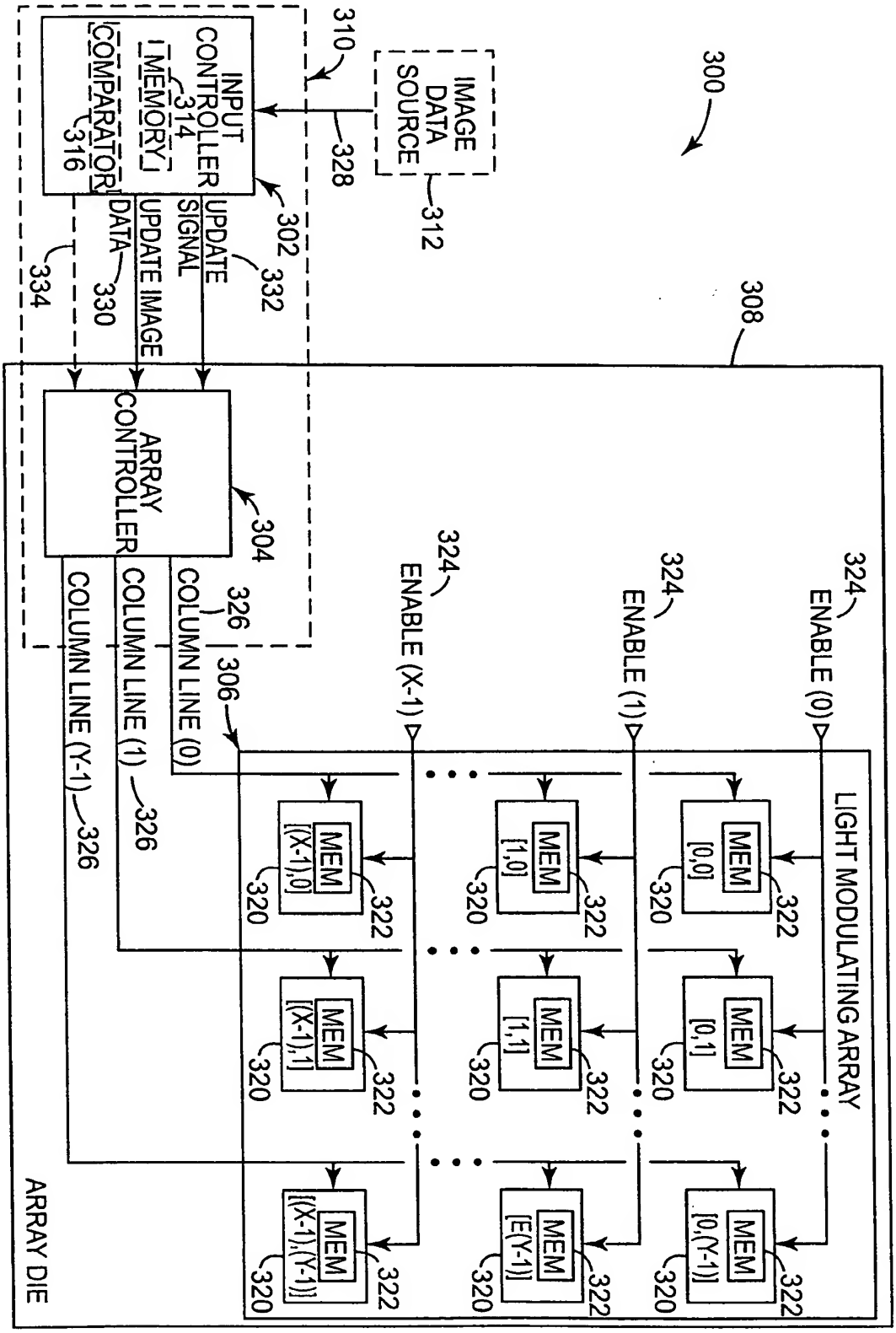

300
308
IMAGE DATA SOURCE
312
310
328
INPUT CONTROLLER
MEMORY
314
COMPARATOR
316
302
UPDATE SIGNAL
332
DATA
330
UPDATE IMAGE
334
ARRAY CONTROLLER
304
COLUMN LINE (0)
COLUMN LINE (1)
COLUMN LINE (Y-1)
326
306
ENABLE (0)
ENABLE (1)
ENABLE (X-1)
324
LIGHT MODULATING ARRAY
MEM [0,0]
MEM [0,1]
MEM [0,(Y-1)]
MEM [1,0]
MEM [1,1]
MEM [1,(Y-1)]
MEM [(X-1),0]
MEM [(X-1),1]
MEM [(X-1),(Y-1)]
320
322
ARRAY DIE

Fig. 6

350

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36

Fig. 7A

360

A	A	B	B	C	C
A	A	B	B	C	C
D	D	E	E	F	F
D	D	E	E	F	F
G	G	H	H	I	I
G	G	H	H	I	I

Fig. 7B

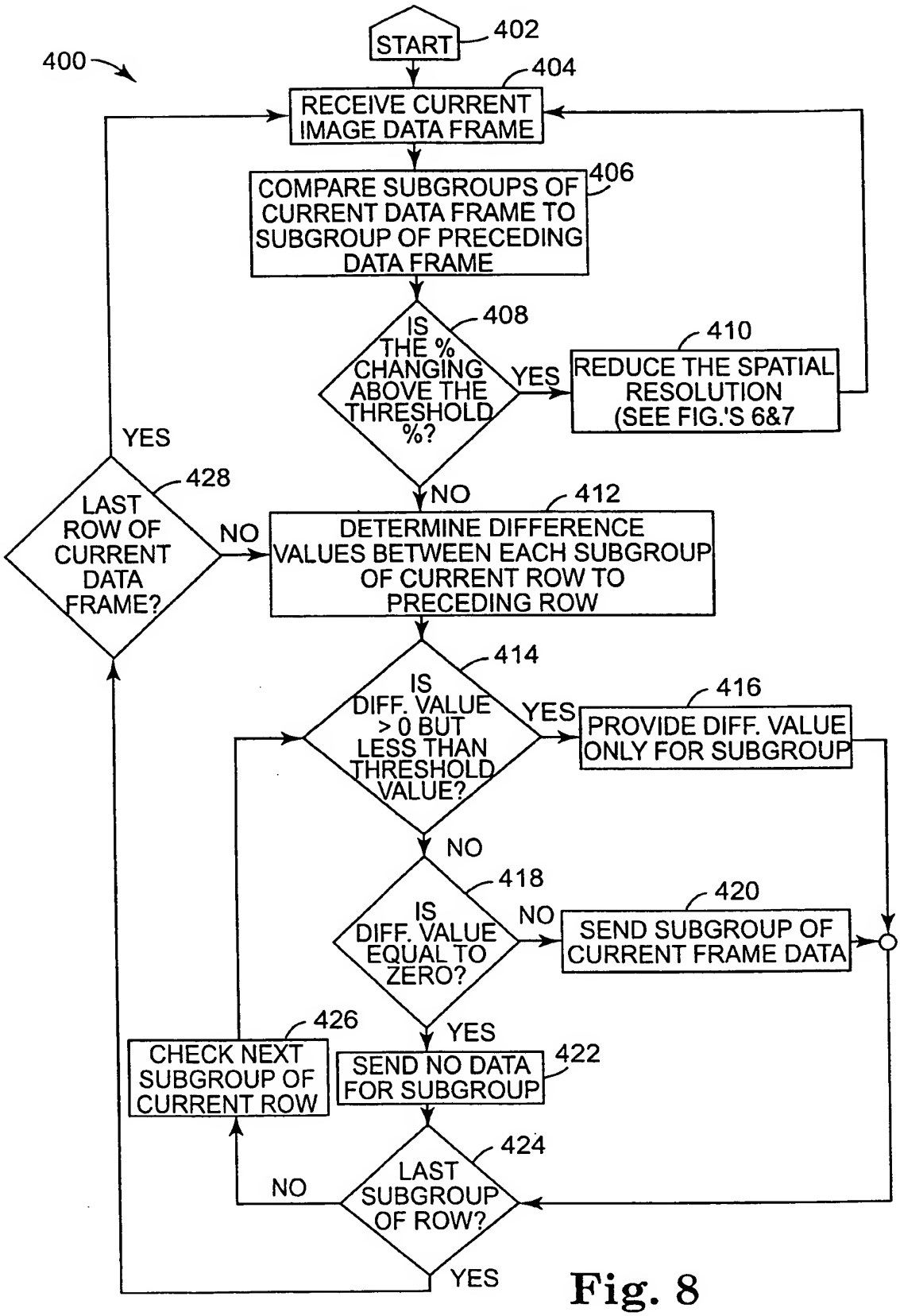

400
START
402
RECEIVE CURRENT IMAGE DATA FRAME
404
COMPARE SUBGROUPS OF CURRENT DATA FRAME TO SUBGROUP OF PRECEDING DATA FRAME
406
IS THE % CHANGING ABOVE THE THRESHOLD %?
408
YES
REDUCE THE SPATIAL RESOLUTION (SEE FIG.'S 6&7
410
NO
DETERMINE DIFFERENCE VALUES BETWEEN EACH SUBGROUP OF CURRENT ROW TO PRECEDING ROW
412
LAST ROW OF CURRENT DATA FRAME?
428
YES
NO
IS DIFF. VALUE > 0 BUT LESS THAN THRESHOLD VALUE?
414
YES
PROVIDE DIFF. VALUE ONLY FOR SUBGROUP
416
NO
IS DIFF. VALUE EQUAL TO ZERO?
418
NO
SEND SUBGROUP OF CURRENT FRAME DATA
420
YES
SEND NO DATA FOR SUBGROUP
422
CHECK NEXT SUBGROUP OF CURRENT ROW
426
LAST SUBGROUP OF ROW?
424
NO
YES

Fig. 8